

REMARKS

Further and favorable reconsideration is respectfully requested in view of the foregoing amendments and following remarks.

Information Disclosure Statements

Initially, the Examiner is kindly requested to consider the Information Disclosure Statements filed June 1, 2007 and July 25, 2007, and forward Examiner-initialed copies of the corresponding PTO-1449 Forms to Applicant's representative with the next correspondence.

Affirmation of Election

Applicant affirms the election of claims 10 and 11, in accordance with the Examiner's request.

Claim Amendments

Claim 10 has been amended to make minor changes of an editorial nature, in order to better comply with U.S. practice.

New claim 13 is added to the application. Support for this claim is found on page 12, line 25 through page 13, line 2 and page 14, lines 18-21 of the specification.

Further, withdrawn claims 1-9 and 12 have been cancelled, without prejudice.

No new matter has been added to the application by these amendments.

Patentability Arguments

The patentability of the present invention over the disclosures of the references relied upon by the Examiner in rejecting the claims will be apparent upon consideration of the following remarks.

Rejection Under 35 U.S.C. § 102(b)

Thus, the rejection of claim 10 under 35 U.S.C. § 102(b) as being anticipated by Cao et al. is respectfully traversed.

The Examiner takes the position that Cao et al. teach a polyaniline-containing composition comprising a polyaniline, a dopant consisted of an emulsion polymer having an acid group in a molecule (poly (2-acrylamido-2 methyl-1-propanesulfonic acid), an inorganic compound (oxides of B, and Al) and water.

As stated above, the Examiner asserts that poly (2-acrylamido-2 methyl-1-propanesulfonic acid) (PAAMPSA) of Cao et al. is the equivalent of a dopant consisted of an emulsion polymer having an acid group in a molecule. However, PAAMPSA of Cao et al. is not an emulsion polymer, as required by Applicant's claims. It is necessary that a surfactant is added in a polymerization process in order to obtain an emulsion polymer. However, a surfactant is not used in the polymerization process of Cao et al., though there is a description that "the emulsion of PANI-PAAMPSA" in paragraph [0027]. (See paragraphs [0027] and [0064] of the reference.) Therefore, Cao et al. do not teach the emulsion polymer having an acid group in a molecule, as required by Applicant's claims.

Even if PAAMPSA is considered the emulsion polymer, Cao et al. do not disclose a composition comprising a polyaniline, a dopant consisting of an emulsion polymer having an acid group in a molecule, an inorganic compound and water.

Firstly, the PANI-PAAMPSA layer of Cao et al. which comprises a polyaniline, PAAMPSA and water, does not comprise an inorganic compound. (See Cao et al., paragraph [0027].) The Examiner asserts that oxide B and Al are the equivalent of the inorganic compound of the presently claimed invention. However, oxide B and Al exist in layer 50, which is clearly distinguishable from the PANI-PAAMPSA layer 60 spatially. (See Cao et al., Fig. 2, and paragraphs [0021], [0024] and [0077].) Therefore, the PANI-PAAMPSA layer does not comprise the inorganic compounds oxide B and Al.

Secondly, a material where the PANI-PAAMPSA layer 60 is deposited onto the layer 50 is also not equivalent to the polyaniline-containing composition of the presently claimed invention, because water is removed when the PANI-PAAMPSA layer 60 is casted.

As described above, Cao et al. do not teach the claimed composition comprising a polyaniline, a dopant consisting of an emulsion polymer having an acid group in a molecule, an inorganic compound and water.

The object of the presently claimed invention is to provide the polyaniline-containing composition including polyaniline uniformly dispersed in water or a solvent, and thus having a superior dispersion stability. (See page 2, lines 16-18 in the specification.)

On the contrary, Cao et al. do not recognize the object of improving dispersion of polyaniline which has lower solubility in water or a solvent. Cao et al. disclose a PANI-PAAMPSA film comprising polyaniline for use in electronic devices such as emissive displays.

As described above, the object of the presently claimed invention is entirely different from that of Cao et al., and Cao et al. do not teach or suggest the technical idea of improving a dispersion of polyaniline uniformly and stably. Additionally, as discussed above, Cao et al. fail to teach or suggest each and every element of Applicant's claimed composition.

For these reasons, the invention of claim 10 is clearly patentable over Cao et al.

Rejection Under 35 U.S.C. § 103(a)

The rejection of claim 11 under 35 U.S.C. § 103(a) as being unpatentable over Cao et al. in view of Moffat et al. is respectfully traversed.

The Examiner admits that Cao et al. do not teach the amount of inorganic compound in polyaniline-containing composition. The Examiner asserts that Moffat et al. teach using at least about 0.1-2 and 4.5 percent by weight of the particle metal oxide as the extra additive for the composition. The Examiner states that Cao et al. and Moffat et al. are combinable because they are concerned with a similar technical difficulty, namely, forming conductive polymer composition. The Examiner takes the position that it would have been obvious to one of ordinary skill in the art at the time the invention was made to use the teaching of Moffat et al. in the teaching of Cao et al., in order to improve the cohesion of the oxide particles and the conductivity on the surface level.

The comments set forth above concerning Cao et al. are equally applicable to this rejection. Since claim 11 is directly dependent on claim 10, the subject matter of claim 11 is patentable over Cao et al. for the same reasons that the subject matter of claim 10 is

patentable over this reference. The teachings of Moffat et al. fail to remedy the deficiencies of Cao et al.

Further, as stated above, the Examiner asserts that “Cao et al. and Moffat et al. are combinable because they are concerned with a similar technical difficulty, namely, forming conductive polymer composition.” However, the object of Cao et al. is to enhance “resistivity” of polyaniline (see Cao et al., paragraph [0009]), whereas the object of Moffat et al. is to enhance “conductivity” of a mixture of a metal oxide and a marking particle (see Moffat et al., column 47, line 66 to column 48, line 3). Accordingly, contrary to the Examiner’s assertion, Cao et al. and Moffat et al. have contrary objectives, and there is no suggestion or motivation of combining the references.

In Moffat et al., the metal oxide of an inorganic compound is blended onto the marking particle, which has either incorporated therein or coated thereon a conductive polymer (see Moffat et al., column 26, lines 19-21), in the ratio of 0.1% to 2% or 4.5% by weight. On the other hand, in Cao et al. the oxide B and Al of an inorganic compound exist as distinguished from the PANI-PAAMPSA layer 60 spatially, and are not blended in aniline and PAAMPSA. Accordingly, one skilled in the art would not combine Cao et al., in which the oxide B and Al are not blended in aniline, and Moffat et al., in which the metal oxide is blended onto the marking particle.

The metal oxide is blended onto the marking particle to improve flow property and cohesion of particles in Moffat et al. (see Moffat et al., column 47, line 66 to column 48, line 3), whereas the inorganic compound is blended in Applicant’s composition to suppress aggregation of a polyaniline and improve storage stability. (See page 16, line 21 to page 17, line 4 of Applicant’s specification.)

Therefore, even if Cao et al. and Moffat et al. are combined, one skilled in the art would not easily achieve the invention of claim 11, in which the amount of the inorganic compound is defined to improve the property of “the liquid composition”, based on Moffat et al., in which the amount of the metal oxide is defined to improve that of “the solid particles”.

For these reasons, the invention of claim 11 is clearly patentable over Cao et al. in view of Moffat et al.

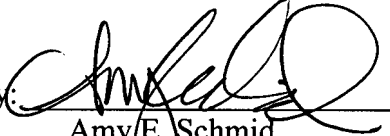
Conclusion

Therefore, in view of the foregoing amendments and remarks, it is submitted that each of the grounds of rejection set forth by the Examiner has been overcome, and that the application is in condition for allowance. Such allowance is solicited.

If, after reviewing this Amendment, the Examiner feels there are any issues remaining which must be resolved before the application can be passed to issue, the Examiner is respectfully requested to contact the undersigned by telephone in order to resolve such issues.

Respectfully submitted,

Hayahide YAMASAKI

By: 
Amy E. Schmid
Registration No. 55,965
Attorney for Applicant

AES/nrj
Washington, D.C. 20006-1021
Telephone (202) 721-8200
Facsimile (202) 721-8250
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